

# CMOS LOW VOLTAGE HIGH-SPEED DIFFERENTIAL AMPLIFIER

## ABSTRACT

A differential amplifier for providing common-mode rejection while providing differential-mode amplification includes an active differential amplification element electrically coupled to a first input signal, a second input signal and an output signal. The active differential amplification element is also electrically coupled to a first voltage and to a different second voltage. A passive bias element is electrically coupled to the active differential amplification element. The passive bias element is capable of biasing the active differential amplification element so that the active differential amplification element operates in a saturation mode. The active differential amplification element thereby generates the output signal so that the output signal corresponds to a voltage difference between the first input signal and the second input signal.

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